DCT-23

Integrated Zone Amplifier

Operation Manual

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SAFETY PRECAUTIONS

Please read all instructions before attempting to unpack, install or operate this equipment and before connecting the power supply.

Please keep the following in mind as you unpack and install this equipment:

- Always follow basic safety precautions to reduce the risk of fire, electrical shock and injury to persons.
- To prevent fire or shock hazard, do not expose the unit to rain, moisture or install this product near water.
- Never spill liquid of any kind on or into this product.
- Never push an object of any kind into this product through any openings or empty slots in the unit, as you may damage parts inside the unit.
- Do not attach the power supply cabling to building surfaces.
- Use only the supplied power supply unit (PSU). Do not use the PSU if it is damaged.
- Do not allow anything to rest on the power cabling or allow any weight to be placed upon it or any person to walk on it.
- To protect the unit from overheating, do not block any vents or openings in the unit housing that provide ventilation and allow for sufficient space for air to circulate around the unit.

REVISION HISTORY

VERSION NO.	DATE DD/MM/YY	SUMMARY OF CHANGE
RDV1	26/12/12	Preliminary Release
RDV2	16/05/13	RS-232 Commands
VS0	20/06/13	Updated text/diagrams

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1. INTRODUCTION

The Integrated Zone Amplifier accepts analog and digital stereo audio signals via RCA, 3.5mm mini-jack, optical and coaxial digital, and HDMI with an additional microphone input. As well as speaker outputs, it boasts line level output, optical and digital outputs, and HDMI outputs for wider systems integration. Suitable for use at musical events, sound presentation and sound amplification. With audio sampling rate support up to 48 kHz and I/O data rate support up to 24-bit, it provides a high quality sound reproduction.

2. APPLICATIONS

- Public speech
- Corporate Events
- Home systems
- Ceiling Speaker Systems
- Matrix zone amplification

3. PACKAGE CONTENTS

- 1×Integrated Zone Amplifier
- 1×24 V/ 3.75 A DC Power Adaptor
- 1×Remote Control (CR-126)
- 1×IR Receiver
- 1×Power Cable
- Operations Manual

4. SYSTEM REQUIREMENTS

Audio source equipment such as DVD/Blu-ray players, PC, CD player, MP3 etc. with output display TV/monitor and active speakers.

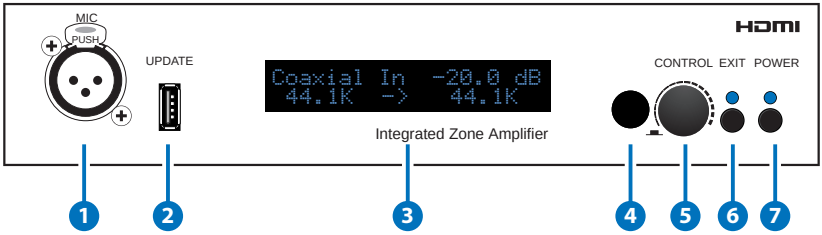
5. FEATURES

- 30 watts per channel Digital Stereo Amplifier
- Supports Digital to Analog audio Conversion (DAC) and Analog to Digital audio Conversion (ADC)
- HDMI Audio Embedding and de-embedding
- Supports input sampling rates up to 96kHz and output at 48kHz
- Dedicated XLR microphone input with independent volume control
- Supports microphone sound being embedded into audio output
- Simultaneous output of sound on both digital and analog
- Supports control via IR (Remote and IR Receiver input), RS-232 or IP (Telnet)
- Analog line output selectable to be either fixed or variable output level
- Compact design and easy to use

Note: Does not support the decoding of Dolby® Digital signals

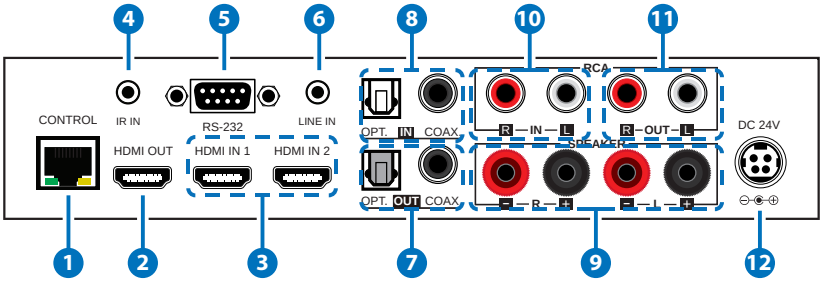
6. OPERATION CONTROLS AND FUNCTIONS

6.1 Front Panel



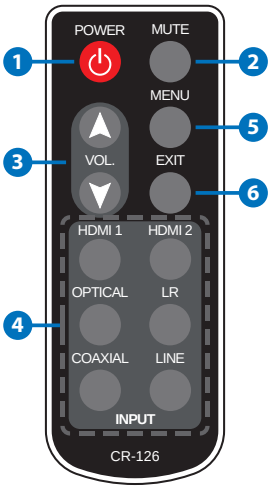
1. **MIC:** Connect to a microphone or a mono balanced source.
2. **UPDATE:** Manufacturer use only.
3. **LCM Display:** Display current source selection and volume setting.
4. **IR Window:** Accepts the IR signal from the supplied remote control.
5. **CONTROL:** Control and direct volume adjustment. Turn the wheel to directly adjust the volume level when not in the menu or press it to enter into the menu. Turn the wheel to navigate the menu and press it again to enter or confirm the selection.
6. **EXIT Button:** Press this button to exit the menu. When not in the menu press this button to mute the output, the LED will illuminate in red. Press it again to unmute.
7. **POWER Button:** Press this button to turn on the device, the LED will illuminate in blue to indicate that it is powered. Press it again to switch to standby mode, the LED will turn red to indicate that it is in standby.

6.2 Rear Panel



1. **CONTROL:** Connect to an active network with RJ-45 cable for telnet control.
2. **HDMI OUT:** Connect to HDTV/monitor for both audio and video display.
3. **HDMI IN 1/2:** Connect to HDMI source equipment such as a Set-top Box or Blu-ray player.
4. **IR IN:** Connect the IR receiver included in the package for receiving the IR signal from the device's remote control.
5. **RS-232:** Connect to a PC/Laptop or control system with D-Sub 15pin cable for RS-232 control.
6. **LINE IN:** Connect to an audio source with 3.5mm mini-jack cable for stereo audio signal input.
7. **OPT. and COAX. OUT:** Digital audio output. Connect to additional amplifiers or active speakers.
8. **OPT. and COAX. IN:** Connect to source equipment such as a Set-top-box or games console with an optical or coaxial digital output.
9. **SPEAKER L/R:** Connect to speakers with standard speaker cable.
10. **RCA IN:** Connect to audio source equipment with an RCA cable for analogue stereo audio input.
11. **RCA OUT:** Connect L/R output to active speakers or an additional AU-A300 with an RCA cable for analogue stereo audio output.
12. **DC 24V:** Connect the 24V DC power supply to the unit and plug the adaptor into an AC outlet.

6.3 Remote Control



1. **POWER:** Press this button to turn the device On or to set it into standby mode.
2. **MUTE:** Press this button to mute the audio output.
3. **Vol. Up or Down (▲▼):** Press these buttons to turn the output volume up or down.
4. **INPUT:** Press these hot keys to switch the required input source directly.
5. **MENU:** Press this button to enter the OSD MENU then press the up or down buttons to select the required option and press it again to confirm the selection.
6. **EXIT:** Press this button to go back one step or exit from the menu.

6.4 RS-232 Protocols

INTEGRATED ZONE AMPLIFIER	
PIN	**Assignment**
1	NC
2	Tx
3	Rx
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

▶
◀

REMOTE CONTROL	
PIN	**Assignment**
1	NC
2	Rx
3	Tx
4	NC
5	GND
6	NC
7	NC
8	NC
9	NC

Baud Rate: 115200bps

Data bit: 8 bits

Parity: None

Flow Control: None

Stop Bit: 1

6.5 RS-232 and Telnet Commands

COMMAND	DESCRIPTION
PWR 0/1	Power control, 0=Off, 1=On
SOURCE 0~5	Source selection, 0=HDMI 1, 1=HDMI 2, 2=OPT, 3=COAX, 4=LINE IN, 5=RCA IN
VOL 0~80	Output volume setting, 0~80 db
MUTE 0/1	Output volume mute control, 0=Unmute, 1=Mute
MICVOL 0~30	Mic volume control, 0~30 db
MICMODE 0~4	Mic mode select, 0=Off, 1=Normal, 2=Phantom, 3=Line mode
FADEFAULT	Factory default setting
REBOOT	Reboot the unit
IPCONFIG	Print the IP configuration to the screen
RESETIP	Reset the IP configuration to factory defaults
SHOWMAC	Print the MAC address to the screen
SHOWPORT	Print the Telnet communication port to the screen
SIPADD	Set the IP address
SNETMASK	Set the Net Mask address
SGATEWAY	Set the Gateway address
STELNETPORT	Set the Telnet communcation port
HELP	Display list of commands
H	Alias for HELP
?	Alias for HELP

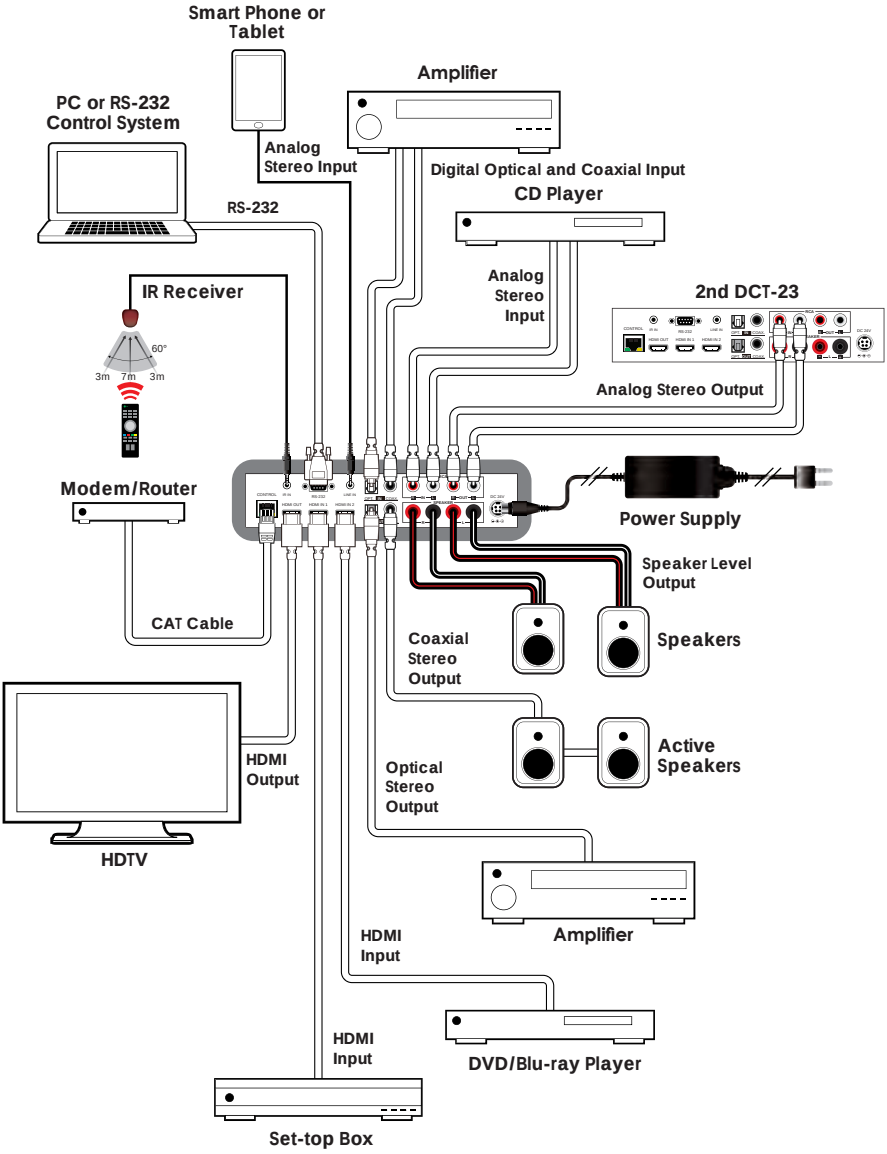
Note: RS-232 commands will be not executed unless followed by a carriage return. All commands are case-sensitive.

6.6 OLED Menu

MAIN MENU	SUBMENU	ADJUSTMENTS
Function Select	Audio In	
	HDMI Set	
	Display Set	
	MIC Set	
	Line Out Set	
	IP Config	
	Reset to Default	
Audio Select	HDMI1	
	HDMI2	
	USB	
	Optical In	
	Coaxial In	
	Line In	
	RCA In	
HDMI Setting	Video	HDMI1
		HDMI2
	Audio	HDMI1
		Ext Audio
Display Set	TimeOut 5s	
	timeOut 10s	
	timeOut 15s	
Mic Setting	OFF	
	Normal	
	Phantom	
	Line Mode	
	Volume	

MAIN MENU	SUBMENU	ADJUSTMENTS
Line Out Setting	Fix Level	
	Default	
IP Configuration	IP	
	SN	
	GN	
Reset To Default	OK	

7. CONNECTION DIAGRAM



8. SPECIFICATIONS

Input Ports	1×Microphone, 2×HDMI, 1×Optical, 1×Coaxial, 1×3.5mm Mini-jack, 1×Analog Stereo (2RCA), 1×D-Sub 15-pin (RS-232), 1×RJ-45 (Control), 1×IR Receiver
Output Ports	1×HDMI, 1×Optical, 1×Coaxial, 1×Analog Stereo (2RCA), 1×L/R (2 Speaker Banana connectors)
Digital Audio Input/ Output	LPCM 2CH
Stereo Input/Output Level	2 Vrms ± 0.2
ESD Protection	Human body model: ±8kV (air-gap discharge) ±4kV (contact discharge)
Power Supply	24V/ 3.75A DC (US/EU standards, CE/ FCC/UL certified)
Dimensions	215 mm (W)×172.5 mm (D)×46 mm (H)
Weight	1060 g
Chassis Material	Aluminum
Silkscreen Color	Black
Operating Temperature	Operating from 0 °C ~ 40 °C
Storage Temperature	−20˚C ~ 60˚C /−4 ˚F ~ 140 ˚F
Relative Humidity	20 ~ 90% RH (non-condensing)
Power Consumption	5.7 W

9. ACRONYMS

ACRONYM	COMPLETE TERM
CAT5e	Category 5 Cable
CAT6	Category 6 Cable
COAX	Coaxial
HDMI	High-Definition Multimedia Interface
OLED	High-Definition Multimedia Interface
OPT	Optical

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